

REMARKS

As a preliminary matter, the Examiner is thanked for making the references cited in the Information Disclosure Statement and three Supplemental Information Disclosure Statements of record and returning to the undersigned attorney the initialed Forms PTO-1449.

Reconsideration of the application in view of the above amendments and following remarks is respectfully requested.

Claims 1-20 were pending in the subject application. The pending claims were subjected to a restriction requirement. Claims 1-16, having been directed to a nonelected invention, are now cancelled without prejudice to pursue the subject matter in a future related application. Claim 17 has been amended in order to expedite prosecution of an embodiment of the present invention. In particular, claim 17 has been amended to insert compounds 1-15 from Figure 1. This amendment is supported, for example, by the incorporation by reference to Figure 1 in claim 17 as originally filed. Claim 17 has also been amended to specify that such a compound is covalently attached to an angiogenesis inhibiting agent. This amendment is supported, for example, by the language of claim 20 as originally filed which depended from claim 17. No new matter has been added. Claims 18-20 have been cancelled without prejudice in view of the amendment to claim 17. Therefore, amended claim 17 is pending.

In the Office Action dated August 08, 2006, claims 17-20 were rejected under U.S.C. § 112, first paragraph, as lacking enablement. More specifically, the Examiner asserts that the specification of the subject application does not reasonably provide enablement for conjugates with any therapeutic agent. In particular, the Examiner objects to “therapeutic agent” as it is said to encompass any neoplastic agent. This rejection is respectfully traversed.

Claim 17, as filed, recited in part “therapeutic agent”. The Examiner objects to the breadth of this term. Claims 18-20, as filed, depended from claim 17 and recited therapeutic agent embodiments. Applicants respectfully disagree that claim 17 as filed was not enabled within the meaning of Section 112, first paragraph. Nevertheless, as set forth above, in order to expedite prosecution of an embodiment of the present invention, claim 17 has been amended to replace “diagnostic or therapeutic agent” with “angiogenesis inhibiting agent”. Thus, claim 17 as

amended is no longer directed to any diagnostic or therapeutic agent. As noted above, claims 18-20 have been cancelled without prejudice in view of the amendment to claim 17.

Therefore, it is believed that the rejection of claims 17-20 under 35 U.S.C. § 112, first paragraph, has been overcome. Reconsideration and withdrawal of this rejection are respectfully requested.

In the Office Action, claim 17 was rejected under 35 U.S.C. § 112, second paragraph, as incomplete. In particular, compounds 1-15 referred to in claim 17 by way of reference to Figure 1 are said to be required to be incorporated in the body of the claim. This rejection is respectfully traversed.

As set forth above, claim 17 has been amended to recite the chemical structures of compounds 1-15 as depicted in Figure 1 as originally filed. Accordingly, compounds 1-15 are now depicted in the body of amended claim 17.

Therefore, it is believed that the rejection of claim 17 under 35 U.S.C. § 112, second paragraph, has been overcome. Reconsideration and withdrawal of this rejection are respectfully requested.

In the Office Action, claims 17-20 were rejected under 35 U.S.C. § 103(a) as unpatentable over Thoma et al. (PCT Application Publication No. WO 98/06730) in view of Liu et al. (U.S. Application Publication No. US 2002-0128225). At page 8 of the Office Action, it is asserted: "Liu suggested that antineoplastic drugs can be conjugated to the glycomimetic like Fluorouracil [0127]." This rejection is respectfully traversed.

Amended claim 17 is directed to conjugates in which one of the compounds depicted is covalently attached to an angiogenesis inhibiting agent. Thoma et al. does not teach or suggest the use of the compounds disclosed therein to inhibit or promote angiogenesis. Thoma et al. also does not teach or suggest the conjugation of any of the compounds disclosed therein, and in particular does not teach or suggest conjugation to an angiogenesis inhibiting agent.

As noted above, the Office Action cites to Liu et al. for the conjugation of a glycomimetic to an antineoplastic drug. Applicants respectfully disagree. For example, Liu et al. nowhere teaches or suggests conjugates. In paragraph [0127] of Liu et al., there is mention of co-administration of anti-cancer drugs. However, co-administration is not conjugation, and covalent attachment (conjugation) is expressly required by the language of claim 17 as originally filed and as presently pending after amendment. Co-administration is described in Liu et al. at paragraph [0126] as the administration in cocktails. The components of the cocktails were not covalently attached to one another. A cocktail is simply one or more components in solution together. In paragraph [0126] of Liu et al., the cocktail is disclosed as containing a polysaccharide and an anti-cancer agent. Because the polysaccharide and the anti-cancer agent in a cocktail of Liu et al. are not conjugated (i.e., not covalently attached to one another), upon administration of the cocktail to a patient, the polysaccharide and the anti-cancer agent distribute themselves (in the patient's body) independent of one another.

In contrast to a cocktail of Liu et al., a conjugate of the present invention permits the targeting of a diagnostic or therapeutic agent (such as an angiogenesis inhibiting agent). Since the compounds of claim 17 are selective for E-selectin, the conjugates of claim 17 target the agent to cells that express E-selectin. This is described in the subject application, for example, at page 1, lines 8-10 and page 11, lines 26-28. In Liu et al., the polysaccharide in the cocktail does not carry the anti-cancer agent in the cocktail to a particular site in the patient because the polysaccharide and the anti-cancer agent are not conjugated (i.e., not covalently attached to one another). The advantages of a conjugate of claim 17 over a cocktail of Liu et al. include delivery of a higher concentration of the agent to the binding site of the glycomimetic (i.e., the target sites) and potentially a reduction in any side effects of the agent because the distribution of the agent in a patient is more localized due to conjugation to the glycomimetic.

Even if one assumes that there is in Thoma et al. or Liu et al. a teaching, suggestion or motivation to combine the two references, the combination nevertheless fails to yield Applicants' claimed invention. Applicants respectfully submit that the Patent Office has failed to establish a *prima facie* case for obviousness.

Therefore, it is believed that the rejection of claim 17 (claims 18-20 are now cancelled) under 35 U.S.C. § 103(a) over Thoma et al. in view of Liu et al. has been overcome. Reconsideration and withdrawal of this rejection are respectfully requested.

In the Office Action, claim 17 was provisionally rejected under the judicially created doctrine of obviousness-type double patenting as unpatentable over claims 5 and 6 of copending U.S. Application No. 10/742,631 ('631). This provisional rejection is respectfully traversed.

The '631 Application has been abandoned, so this provisional rejection has been rendered moot. Reconsideration and withdrawal of this provisional rejection are respectfully requested.

In the Office Action, claim 17 was provisionally rejected under the judicially created doctrine of obviousness-type double patenting as unpatentable over claim 10 of copending U.S. Application No. 10/992,238 ('238). At page 10 of the Office Action, it is asserted: "Instant claim 17 is drawn to a conjugate... and claim 10 of '238 recites the conjugation of similar compounds" This provisional rejection is respectfully traversed.

Contrary to the assertion in the Office Action, the compounds of the '238 Application are not "similar" to the compounds according to Figure 1 of the subject application. For example, the compounds according to Figure 1 of the subject application do not possess a BASA (Benzyl Amino Sulfonic Acid), whereas the compounds of the '238 Application do possess a BASA. Furthermore, since the '238 Application has yet to receive a first substantive Office Action, Applicants believe that it would be more appropriate to apply this rejection (if at all, given the structural differences between the compounds) in the '238 Application and not in the subject application.

Reconsideration and withdrawal of this provisional rejection are respectfully requested.

In the Office Action, claim 17 was provisionally rejected under the judicially created doctrine of obviousness-type double patenting as unpatentable over claim 6 of copending U.S. Application No. 10/992,480 ('480). This provisional rejection is respectfully traversed.

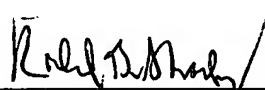
The compounds of the '480 Application are not similar to the compounds according to Figure 1 of the subject application. For example, the compounds according to Figure 1 of the subject application do not possess a BASA (Benzyl Amino Sulfonic Acid), whereas the compounds of the '480 Application do possess a BASA. Furthermore, since the '480 Application has yet to receive a first substantive Office Action, Applicants believe that it would be more appropriate to apply this rejection (if at all, given the structural differences between the compounds) in the '480 Application and not in the subject application.

Reconsideration and withdrawal of this provisional rejection are respectfully requested.

Therefore, in light of the amendments and remarks set forth above, Applicants believe that all the Examiner's rejections have been overcome. Reconsideration and allowance of the pending claim (amended claim 17) are respectfully requested. If there is any further matter requiring attention prior to allowance of the subject application, the Examiner is respectfully requested to contact the undersigned attorney (at 206-622-4900) to resolve the matter.

The Director is authorized to charge any additional fees due by way of this Amendment, or credit any overpayment, to our Deposit Account No. 19-1090.

Respectfully submitted,
Seed Intellectual Property Law Group PLLC



Richard G. Sharkey, Ph.D.
Registration No. 32,629

Customer No. 00500